


## CLAIMS

### WHAT IS CLAIMED IS:

5  1. A computer readable form embodying machine executable instructions for permitting a voter to cast a ballot by interaction with an official ballot image resulting in the creation of a cast vote record that may be transmitted to a server, comprising:

voter authentication code;

display code configured for use in displaying the official ballot image to the voter while permitting the voter to create a cast vote record by interaction with the ballot image until such time as the voter casts the ballot; and

message transmission code for use in transmitting the cast vote record to the server,

wherein the computer readable form does not require interaction with a server during execution at least one of the voter authentication code and the display code.

15 2. The computer readable form of claim 1, wherein the voter authentication code includes code for comparing official voter authentication data against data that is input by the voter.

3. The computer readable form of claim 1, wherein the voter authentication code includes code for comparing an official password against a password that is provided by the voter.

5 4. The computer readable form of claim 1, wherein the voter authentication code includes code for accessing a biometric authentication device.

10 5. The computer readable form of claim 1, wherein the voter authentication code includes code for accessing a device in the possession of the voter, the device being selected from the group consisting of a smart card, an optical storage device, and a magnetic storage device.

15 6. The computer readable form of claim 1, wherein the voter authentication code includes code for comparing hashed authentication data against voter input data.

7. The computer readable form of claim 1 including data for the official ballot image presenting the voter with all choices as they would appear on an absentee paper ballot that the voter would receive in an election.

20 8. The computer readable form of claim 1 including data comprising the official ballot image which accessible to the display code to present the voter with a ballot consisting of contests in which the voter is authorized to vote.

9. The computer readable form of claim 1 comprising code for checking video memory for ballot selections that are displayed to the voter against other memory containing ballot choices that the voter has made.

5 10. The computer readable form of claim 1, wherein the message transmission code includes code for encrypting the cast vote record prior to transmission.

11. The computer readable form of claim 10, wherein the message transmission includes code for implementing a secure transmission protocol in transmitting the cast vote record to an election server.

10 12. The computer readable form of claim 1, wherein the computer readable form is stored on a disk.

13. The computer readable form of claim 1, wherein the computer readable form is configured for download from a server.

15 14. The computer readable form of claim 1, wherein the message transmission code includes code for encrypting the cast vote record prior to transmission through use of an encryption key.

15. The computer readable form of claim 14, including code for deleting the computer readable form once the code for encrypting and the message transmission code have completed their tasks.

16. The computer readable form of claim 1, wherein the computer readable form is packaged as an object including all data that is required for voter authentication.

5 17. The computer readable form of claim 1, wherein the computer readable form is packaged as an object including all data that is required for the voter to create a cast vote record.

18. The computer readable form of claim 1 including code for implementing a virus mitigation measure.

10 19. The computer readable form of claim 18, wherein the virus mitigation measure is selected from the group consisting of compiled sections of executable code with a plurality of static functions in different order, the insertion of junk functions into executable code, an absence of text tags to system function calls, serialized executable file names, serialized data file headers, virus checking upon execution of the computer readable form for viruses that are known to interact with the computer readable form, and means for comparing video memory to the ballot image that is displayed to the voter.

15 20. A method of voting using network telecommunications through use of a downloadable ballot viewer object containing an official ballot image, voter authentication information, and executable code for use in casting a ballot, the method comprising the steps of:

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5        downloading the ballot viewer object;  
         authenticating a voter in association with the ballot viewer object;  
         displaying an official ballot image derived from the ballot viewer  
object;  
         creating a cast vote record by voter interaction with the official ballot  
image; and  
         transmitting the cast vote record to an election server.

10        21. The method according to claim 20, wherein the step of  
downloading the ballot viewer object includes downloading the ballot viewer  
object as an email attachment.

15        22. The method according to claim 20 including a step of storing the  
ballot viewer object on a server that is accessible from the Internet.

20        23. The method according to claim 22 including a step of notifying a  
voter that the downloadable ballot viewer object has been stored on the  
server and is available for download prior to the downloading step.

25        24. The method according to claim 20 including a step of charging a  
transactional fee for at least one of the downloading and transmitting steps.

30        25. The method according to claim 20, wherein the step of  
downloading the ballot viewer object includes downloading the ballot viewer  
object through use of an official service of the United States Postal Service.

26. The method according to claim 20, wherein the step of downloading the ballot viewer object includes downloading through the use of a secure transmission protocol.

5 27. The method according to claim 20, wherein the step of downloading the ballot viewer object includes a step of confirming a voter by password prior to commencing the downloading step.

28. The method according to claim 20, wherein the step of downloading the ballot viewer object includes encrypting the ballot viewer object.

10 29. The method according to claim 20, wherein the step of authenticating the voter includes comparing the voter authentication information with interactive input provided by a voter.

15 30. The method according to claim 29, wherein the voter authentication information contained in the ballot viewer object is hashed and the step of authenticating the voter includes hashing the interactive input from the voter for comparison purposes.

31. The method according to claim 20, wherein the step of displaying the official ballot image includes displaying an electronic replica of an absentee paper ballot that a voter would receive in an election.

20 32. The method according to claim 20 including a step of encrypting the cast vote record prior to the transmitting step.

33. The method according to claim 20 including a step of deleting the ballot viewer object and cast vote record from a voter's computer once the transmitting step is complete.

5 34. The method according to claim 20 including a step of sending an email confirmation message to the voter upon receipt of the cast vote record transmitted by the voter.

35. The method according to claim 34 including a step of replicating the voter's cast vote record in the email confirmation message.

10 36. The method according to claim 20 including a step of creating the ballot viewer object to have a unique combination of voter authorization information and official ballot image information assigned to a particular voter.

15 37. The method according to claim 36, wherein the official ballot image information includes selecting contests for presentation in the official ballot image according to contests in which the voter is authorized to vote.

38. The method according to claim 20, wherein the transmitting step is performed using an official server that is authorized by the United States Postal Service.

20 39. The method according to claim 20, wherein the transmitting step is performed using encryption of the cast vote record.

40. The method according to claim 20, wherein at least one of the downloading and transmitting steps is accomplished through use of the Internet.

5 41. The method according to claim 40 including a step of resolving problems that arise as a result of transmitting messages through use of the Internet.

42. The method according to claim 41, wherein the step of resolving problems includes parsing the cast vote record to identify corrupted ballot information.

10 43. The method according to claim 41, wherein the step of resolving problems includes preventing a single voter from casting multiple ballots.

15 44. The method according to claim 41, wherein the step of resolving problems includes notifying the voter that an ballot viewer object has been downloaded but the transmitting step has not been completed within a predetermined amount of time since the downloading step occurred.

45. The method according to claim 41, wherein the step of resolving problems includes facilitating a subsequent download in the event of a download failure upon an initial attempt at performing the download step.

20 46. The method according to claim 20 including a step of protecting against virus attack.



47. The method according to claim 46, wherein the protecting step includes creating the ballot viewer object by compiling sections of executable code with a plurality of static functions in different order, inserting junk functions into executable code, avoiding use of text tags to system function calls, using serialized executable file names, using serialized data file headers, checking upon execution of the computer readable form for viruses that are known to interact with the computer readable form, and comparing video memory to ballot selections that the voter has made.

48. A system for use in voting through network telecommunications devices that transmit a downloadable ballot viewer object containing an official ballot image, voter authentication information, and executable code for use in casting a ballot, the system comprising:

means for downloading the ballot viewer object;

means for authenticating a voter in association with the ballot viewer object;

means for displaying an official ballot image derived from the ballot viewer object;

means for creating a cast vote record by voter interaction with the official ballot image; and

means for transmitting the cast vote record to an election server.

49. The system of claim 48, wherein the means for downloading the ballot viewer object includes means for downloading the ballot viewer object as an email attachment.

5 50. The system of claim 48 including means for storing the ballot viewer object on a server that is accessible from the Internet.

51. The system of claim 50 including means for notifying a voter that the downloadable ballot viewer object has been stored on the server and is available for download prior to use of the downloading means.

10 52. The system of claim 48 including means for charging a transactional fee for use of at least one of the downloading and transmitting means

53 The system of claim 48, wherein the means for downloading the ballot viewer object includes means for downloading the ballot viewer object through use of an official service of the United States Postal Service.

15 54 The system of claim 48, wherein the means for downloading the ballot viewer object includes means for downloading through the use of a secure transmission protocol.

20 55 The system of claim 48, wherein the means for downloading the ballot viewer object includes means for confirming a voter by password prior to use of the downloading means.

56 The system of claim 48, wherein the means for downloading the ballot viewer object includes means for encrypting the ballot viewer object.

57. The system of claim 48, wherein the means for authenticating the voter includes means for comparing the voter authentication information with interactive input provided by a voter.

58. The system of claim 57, wherein the voter authentication information contained in the ballot viewer object is hashed and the means for authenticating the voter includes means for hashing the interactive input from the voter for comparison purposes.

59. The system of claim 48, wherein the means for displaying the official ballot image includes means for displaying an electronic replica of an absentee paper ballot that a voter would receive in an election.

60. The system of claim 48 including means for encrypting the cast vote record prior to use of the transmitting means.

61. The system of claim 48 including means for deleting the ballot viewer object and cast vote record from a voter's computer once the transmitting means has transmitted the cast vote record.

62. The system of claim 48 including a means for sending an email confirmation message to the voter upon receipt of the cast vote record transmitted by the voter.

63. The system of claim 62 including means for replicating the voter's cast vote record in the email confirmation message.

64. The system of claim 48 including means for creating the ballot viewer object to have a unique combination of voter authorization information and official ballot image information assigned to a particular voter.

65. The method according to claim 64, wherein the official ballot image information includes selected contests for presentation in the official ballot image according to contests in which the voter is authorized to vote.

66. The system of claim 48, wherein the transmitting means includes transmission through an official server that is authorized by the United States Postal Service.

67. The system of claim 48, wherein the transmitting means includes means for encrypting the cast vote record.

68. The system of claim 48, wherein at least one of the downloading and transmitting means includes the Internet.

69. The system of claim 68 including a means for resolving problems that arise as a result of transmitting messages through use of the Internet.

70. The system of claim 69, wherein the means for resolving problems includes means for parsing the cast vote record to identify corrupted ballot information.

71. The system of claim 69, wherein the means for resolving problems includes means for preventing a single voter from casting multiple ballots.

5 72. The system of claim 69, wherein the means for resolving problems includes means for notifying the voter that an ballot viewer object has been downloaded but that a transmission from the transmitting means has not been received within a predetermined amount of time since the ballot viewer object was downloaded.

10 73. The system of claim 69, wherein the step of resolving problems includes facilitating a subsequent download in the event of a download failure upon an initial attempt at performing the download step.

11 74. The system of claim 48 including a means for protecting against virus attack.

15 75. The system of claim 74, wherein the protecting means includes a means selected form the group consisting of means for creating the ballot viewer object by compiling sections of executable code with a plurality of static functions in different order, means for inserting junk functions into executable code, an absence of text tags to system function calls, means for using serialized executable file names, means for using serialized data file  
20 headers, means for checking upon execution of the computer readable form for viruses that are known to interact with the computer readable form,

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